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09/854,756	05/14/2001	Robert C. Gardiner	283_299	8889

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EXAMINER	
TRAN, ELLEN C	

ART UNIT	PAPER NUMBER
2134	

DATE MAILED: 04/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/854,756	GARDINER, ROBERT C.	
	Examiner	Art Unit	
	Ellen C. Tran	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16,28-38,42-48,60 and 61* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16,28-38,42-48,60 and 61* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communication: 24 January 2006 with acknowledgement of an original application filing date of 14 May 2001.

2. Claims 1-16, 28-38, 42-48, 60, and 61 are currently pending in this application. Claims 1, 28, 42, 60, and 61 are independent claims. Claims 17-27, 39-41, and 49-59 were cancelled in previous amendment. Claims 1, 8, 9, 10, 11, 28, 36, 37, 42, and 60 have been amended. Claim 61 is new. Amendment to the claims is accepted.

Response to Arguments

3. Applicant's arguments with respect to 1-16, 28-38, 42-48, 60, and 61 have been considered but they are moot due to new grounds of rejection necessitated by amendment.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language

5. **Claims 1, 8, 9, 12, 28, 29, 30, 36, 42, and 61** are rejected under 35 U.S.C. 102(e) as being anticipated by Nordenstam et al. U.S. Patent No. 6,711,263 (hereinafter '263).

As to independent claim 1, "A portable keying device that is configured for installing at least one encryption key into at least one electronic terminal, said portable keying device comprising:" is taught in '263 col. 9, line 64 through col. 10, lines 14;

"a memory device for storing at least one encryption key" is shown in '263 col. 10, lines 14-18;

"and a communications unit coupled to said memory device said communications unit being operative to transmit said at least one encryption key in a predetermined format to at least one electronic terminal" is disclosed in '263 col. 10, lines 19-29;

"said at least one electronic terminal includes a secure memory location for storing at least one data communications encryption key" is taught in '263 col. 4, lines 24-29;

"and is configured to employ said encryption key for the purpose of encrypting input data" is shown in '263 col. 8, lines 30-33.

As to dependent claim 8, "wherein the at least one encryption key is installed in the electronic terminal in accordance with a predetermined protocol" is disclosed in '263 col. 6, lines 47-52.

As to dependent claim 9, "wherein the predetermined protocol includes: performing a handshaking routine, whereby the keying device and the electronic terminal exchange handshaking messages" is taught in '263 col. 4, lines 13-18;

"transmitting the at least one encryption key from the keying device to the electronic terminal in response to a successful handshaking routine" is shown in '263 col. 4, lines 18-25;

"validating the step of transmitting by re-transmitting the at least one encryption key from the electronic terminal to the keying device, whereby the keying device compares the transmitted data communications encryption key to the re-transmitted data communications encryption key; and storing the at least one data communications

encryption key in the secure encryption key memory location in response to a successful step of validating" is disclosed in '263 col. 10, lines 46-53.

As to dependent claim 12, "wherein the secure encryption key memory location is a memory location in non-volatile memory" is shown in '263 col. 5, lines 16-35.

As to independent claim 28, "A method for installing an encryption key in an electronic terminal, the electronic terminal including a secure encryption key memory location for storing the at least one encryption key, the method comprising:" is taught in '263 col. 9, line 64 through col. 10, lines 14;

"providing a portable keying device, whereby the portable keying device is physically separated from the electronic terminal" is taught in '263 col. 6, lines 33-38;

"performing a handshaking routine, whereby the keying device and the electronic terminal exchange handshaking messages" is taught in '263 col. 4, lines 13-18;

"transmitting an encryption key from the portable keying device to the electronic terminal" is shown in '263 col. 4, lines 18-25;

"and storing the encryption key transmitted from the portable keying device to the electronic terminal in the secure key memory location" is taught in '263 col. 4, lines 24-29.

As to dependent claim 29, "wherein the step of performing a handshaking routine includes transmitting an authorization signal from the portable keying device to the electronic terminal" is taught in '263 col. 4, lines 13-25.

As to dependent claim 30, "wherein the portable keying device provides the electronic terminal with a predetermined authorization code during the step of transmitting an authorization signal" is shown in '263 col. 8, lines 42-47.

As to dependent claims 36, this claim is substantially similar to claim 9; therefore it is rejected along similar rationale.

As to independent claim 42, this claim is directed to a portable key installation system of the method of claim 28; therefore it is rejected along similar rationale.

As to independent claim 61, "A portable keying device for installing an encryption key into at least one electronic terminal, the portable keying device including:" is taught in '263 col. 9, line 64 through col. 10, lines 14;

"a memory device for storing at least one encryption key" is shown in '263 col. 10, lines 14-18;

"and a communications unit coupled to said memory device said communications unit being operative to transmit said at least one encryption key via transmission of an RF signal" is disclosed in '263 col. 10, lines 19-41;

"and where said electronic terminal includes at least one of the following: a keypad, a signature pad, a card reader, a bar code reader, and a point of sail retail transaction processing apparatus" is taught in '263 col. 8, lines 42-47, col. 10, lines 2-6, and col. 10, lines 34-53.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 10, 11, 37, and 38,** are rejected under 35 U.S.C. 103(a) as being unpatentable over '263 in view of Carloganu et al. U.S. Patent No. 6,226,749 (hereinafter '749).

As to dependent claim 10, the following is not disclosed in '263: **"wherein the step of validating includes transmitting a test encryption key from the keying device to the electronic terminal"** however '749 teaches "Preferably, the secured command format includes a message authentication code signature value calculated using an encryption key and at least a portion of the content of the secured command. Command authentication testing is carried out by first calculating a test message authentication code signature value using one of the same or a paired encryption key stored in the security module and the same portion of the content of the secured command received by the security module. Following this, the message authentication code signature value in the secured command is checked to determine if it matches the test message authentication code signature value. If it matches, the command is authenticated; and if not, the command is declared to be faulty" in col. 3, lines 16-29.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of '263 a method of distributing keys to include a means to test the encryption key used with the validation step. One of ordinary skill in the art would have been motivated to perform such a modification because due to the advances in communications with security modules a more flexible method is needed to insure communications are protected (see '749 col. 1, lines 57 et seq.). "This secured application program may be a single application program module or a plurality of application program modules, each of which may be invoked with a specific different security module command. It will be apparent that this prior art approach only allows the application software programmer to operate the secured resources

using fixed program resources having predefined functionality. If the application software programmer wants to do other functions with the secured resources, a custom security module with additional secured application program modules would be required. In most cases the cost of such a customized security module would not be warranted by the added value that can be achieved. The application software programmer must utilize duplicate resources (e.g. a second display or keypad) and control them directly by application processing unit 20. It is apparent that there is a need for a method and apparatus for operating a security module and associated resources in a more flexible and effective manner that allows an application software program running outside the security module to access critical resources controlled by the security module in a secured manner"

As to dependent claim 11, "wherein the electronic terminal compares the test data communications encryption key with a currently in-use data communications encryption key stored in the secure encryption key memory location" is taught in '749 col. 3, lines 16-29.

As to dependent claims 37 and 38, these claims are substantially similar to claims 10 and 11; therefore they are rejected along similar rationale.

8. **Claims 2-7, 31-35, 43-48, and 60** are rejected under 35 U.S.C. 103(a) as being unpatentable over '263 in view of Nysen U.S. Patent No. 6,433,671 (hereinafter '671).

As to dependent claim 2 the following is not taught in '263: **wherein the communications unit includes a low power-close proximity RF transceiver"** however '671

teaches "It is also an object of the invention to provide a method for interrogating a backscatter generating tag, comprising the steps of (a) generating an interrogation signal having a frequency within a interrogation band; (b) emitting an interrogation signal as a radio wave signal; (interacting the emitted radio wave signal with a backscatter generating tag; (receiving a radio frequency backscatter signal from the tag" in col. 8, lines 53-67.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of '263 a method of distributing keys to include a means for the portable keying device to utilize a RF-ID tag that is compatible with existing methods. One of ordinary skill in the art would have been motivated to perform such a modification because of the many schemes known for encoding and decoding identification signals (see '671 col. 1, lines 18 et seq.). "A number of different schemes are known for encoding, transmitting and decoding identification signals from RF-ID tags. However, these schemes are generally incompatible, therefore requiring proprietary readers to accept encoded transmissions from tags of the same vendor. Even where the transmission scheme is not proprietary, there is no standardization in the various RF-ID applications"

As to dependent claim 3, "wherein the predetermined format includes transmitting an RF signal at a predetermined power level" is taught in '671 col. 8, lines 53-67 {Note "power level" has the same meaning as "signal strength"}.

As to dependent claim 4, "wherein the predetermined power level is less than or equal to 1mW" is shown in '671 col. 14, lines 1-10 "In one embodiment, the voltage controlled oscillator 10 is controlled to produce a sinusoidal RF".

As to dependent claim 5, "wherein the RF signal has an effective range of less than or equal to a meter" is disclosed in '671 col. 34, line 42 through col. 35, line 13 "The graphs of FIGS. 36 and 37 illustrate the advantages of the DSSS system. The first portion of the curve on FIG. 37 for a distance between 5 and 25 feet shows the usual falloff of signal strength obtained with a system of the prior art without using the spread spectrum signal modulation according to the invention. The curve has been normalized to show a maximum signal strength of 1.0 at 5 feet from the antenna ... Accordingly, it is very easy to discriminate between a desired signal 15 feet from the reader, and an unwanted signal, such as from an adjacent toll lane, which in most cases will be at least 25 feet away ... It is possible to tailor the distances in actual set up very accurately by locating the antenna at the desired distance from the tag even though the transmitter, receiver/detector and decoder are located somewhere else".

As to dependent claim 6, "wherein the predetermined format includes transmitting an RF signal in a predetermined direction" is taught in '671 col. 17 , lines 64-67 "Another transponder system provides separate launch and receiving transducers ... These surface acoustic wave pass beneath the receiving transducer 170 and continue on toward or more reflectors 172 in the direction indicated by the arrow 174".

As to dependent claim 7, "wherein the predetermined format includes transmitting an RF signal having a predetermined polarity" is shown in '671 col. 32, lines 28-53 "When the reference signal is one polarity, the modulated backscatter signal passes directly through he mixer. When the reference signal is of the opposite polarity, the modulated backscatter signal is inverted".

As to dependent claim 31, "wherein the step of performing a handshaking routine includes transmitting RF signals having at least one predetermined transmission characteristic" disclosed in '671 col. 8, lines 53-67.

As to dependent claims 32-34 and 43-48, these claims contain substantially similar subject matter as claims 2-7; therefore they are rejected along similar rationale.

As to dependent claim 35, "wherein the at least one predetermined transmission characteristic includes transmitting an RF signal having a predetermined modulation format that is characterized by a predetennined programming voltage" is taught in '671 col. 14, lines 1-10 "In one embodiment, the voltage controlled oscillator 10 is controlled to produce a sinusoidal RF".

As to independent claim 60, "A portable keying device for installing an encryption key into at least one electronic terminal, the portable keying device comprising:" is taught in '263 col. 9, line 64 through col. 10, lines 14;

"a memory device for storing the at least one encryption key" is shown in '263 col. 10, lines 14-18;

"and a communications unit coupled to said memory device, the communications unit being operative to transmit said at least one data communications encryption key to an electronic terminal according to a pre-determined format" is disclosed in '263 col. 10, lines 19-29;

"said electronic terminal including a secure memory location for storing said encryption key, said pre-determined format including at least one of: " is taught in '263 col. 4, lines 24-29;

"transmission of an RF signal at a predetermined power level of less than or equal to 1mW" is shown in '671 col. 8, lines 53-67 and '307 col. 7, lines 28-39;

"transmission of an RF signal in a direction that resides within an angular range of plus or minus 15 degrees or less of a predetermined direction" is disclosed in '307 col. 3, lines 27-31 and '671 col. 17, lines 64-67;

"the transmission of an lmW signal having a predetermined polarity" is taught in '671 col. 32, lines 28-53.

9. **Claims 13-17,** are rejected under 35 U.S.C. 103(a) as being unpatentable over '263 in view of Tuttle et al. U.S. Patent No. 6,078,791 (hereinafter '791).

As to dependent claim 13, the following is not taught in '307 **"wherein the non-volatile memory includes E2PROM"** however '791 teaches "This memory includes, but is not limited to , PROMs, EPROMs, EEPROMs, SRAMs, DRAMs, and ferrorelectric memory devices" in col. 2, lines 46-49.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of '307 a method of providing secure transactions with a tag and POS device to include means to utilize various memory devices. One of ordinary skill in the art would have been motivated to perform such a modification because by utilizing various memory devices the packaging of the portable keying device can be varied to make inexpensive and readily manufactured in high volume products (see '791 col. 2 lines 8 et seq.) "In view of the problems described above and related problems that consequently become apparent to those skilled in the applicable arts, the need remains for enclosed electronic apparatus including

transceivers wherein the enclosure is inexpensive, readily manufactured in high volume, appropriate in size for use as a stamp, label, or tag".

As to dependent claim 14, "wherein the non-volatile memory includes EPROM" is taught in '791 col. 2, lines 46-49.

As to dependent claim 15, "wherein the non-volatile memory includes Flash memory" is shown in '791 col. 7, lines 39-61.

As to dependent claim 16, "wherein the non-volatile memory includes battery-backed RAM" is disclosed in '791 col. 6, line 36 through col. 7, line 27.

As to dependent claim 17, "wherein the non-volatile memory includes Ferro RAM" is disclosed in '791 col. 2, lines 46-49.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen C Tran whose telephone number is (571) 272-3842. The examiner can normally be reached from 6:00 am to 2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques H. Louis-Jacques can be reached on (571) 272-6962. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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19 April 2006